

## News Release

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## **MilliporeSigma Expands Excipients Portfolio, Adding Polymers for Sustained Release Injectables**

- **Allows for more precise control of release kinetics**
- **Enables development of drugs requiring fewer injections for enhanced patient comfort and compliance**

Billerica, Massachusetts, July 12, 2016 —[MilliporeSigma](#) has entered into an agreement with PCAS S.A. (Longjumeau, France) to expand MilliporeSigma's excipients portfolio. Under the agreement, MilliporeSigma will be the exclusive, global distributor of the Expansorb® line of biocompatible and biodegradable polymers.

The portfolio will include 38 polymers for sustained release of small molecule and selected peptide injectables, allowing customers to optimize and precisely control release kinetics of final drug products. The ability to better control and sustain the release of drugs allows for delivery via reduced numbers of injections with the same therapeutic efficacy, improving patient comfort and compliance.

"The pharmaceutical industry is increasingly interested in controlling the release of small molecules and selected peptides delivered via injection," said Andrew Bulpin, Head of Process Solutions at MilliporeSigma. "The addition of the Expansorb® polymers to our broad portfolio of excipients improves drug developers' ability to protect molecules with short *in vivo* half-lives and achieve the desired therapeutic effect while enhancing patient comfort and compliance."

Poly lactic acid (PLA) and poly lactic-co-glycolic acid (PLGA) polymers are biocompatible and biodegradable synthetic substances that have already been

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approved by the United States Food and Drug Administration and the European Medicines Agency with several drug products on the market and many more drug products in clinical development.

Expansorb® PLA and PLGA polymers are manufactured under cGMP conditions by PCAS and are expected to be sold under MilliporeSigma's industry-leading Emprove® program once rigorous evaluations and certifications are complete. The pharmaceutical manufacturing industry relies on Emprove® products for documentation and regulatory information to facilitate risk assessment workflows and supplier qualification.

"PCAS is excited to bring our Expansorb® polymers to MilliporeSigma and together offer the potential of significant value creation for pharmaceutical customers," said Didier Combis, Head of Custom Synthesis & Pharma Chemicals, PCAS. "This is an important collaboration, allowing us to broaden access to this powerful technology through MilliporeSigma's global network and facilitate development of improved therapeutic solutions for patients."

Nanosphere and microsphere formulations based on PLGA polymers have been studied extensively for use in the delivery of peptides, therapeutic proteins, hormones and antibiotics. Future applications are expected to include the development of targeted drug-containing nanoparticles using site-specific ligands.

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### **About PCAS (Euronext Paris: PCA)**

PCAS specializes in the development and production of complex molecules for Life Sciences and Innovative Technologies. With 7% of its turnover dedicated to R&D and a wide international presence, PCAS is the preferred industrial partner of market-leading major global groups. The company offers a growing range of proprietary products and solutions in leading-edge segments, and also includes two subsidiaries with very strong potential: Protéus in biotechnology and Enersens in high-performance insulation. With a particularly high standard of performance, PCAS achieved net sales of €179,1 million in 2015 and employs over 900 people in six countries.

For more information about PCAS: [www.pcas.com](http://www.pcas.com)

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### **About the Life Science Business of Merck KGaA, Darmstadt, Germany**

The life science business of Merck KGaA, Darmstadt, Germany, which operates as MilliporeSigma in the U.S. and Canada, has 19,000 employees and 65 manufacturing sites worldwide, with a portfolio of more than 300,000 products enabling scientific discovery. Udit Batra is the global chief executive officer of MilliporeSigma.

Merck KGaA, Darmstadt, Germany completed its \$17 billion acquisition of Sigma-Aldrich in November 2015, creating a leader in the \$125 billion global life science industry.

Merck KGaA of Darmstadt, Germany is a leading company for innovative and top-quality high-tech products in healthcare, life science and performance materials. The company has six businesses – Biopharmaceuticals, Consumer Health, Allergopharma, Biosimilars, Life Science and Performance Materials – and generated sales of € 12.85 billion in 2015. Around 50,000 employees work in 66 countries to improve the quality of life for patients, to foster the success of customers and to help meet global challenges.

Merck KGaA, Darmstadt, Germany is the world's oldest pharmaceutical and chemical company – since 1668, the company has stood for innovation, business success and responsible entrepreneurship. Holding an approximately 70 percent interest, the founding family remains the majority owner of the company to this day. Merck KGaA, Darmstadt, Germany holds the global rights to the name and the trademark "Merck" internationally except for the United States and Canada, where the company operates as EMD Serono, MilliporeSigma and EMD performance materials.